

claim 1 for the claim 1 on file. A marked-up version to show the changes made is also attached.

REMARKS

Claims 1, 3, 6, and 7 are in the application.

Reconsideration and withdrawal of the rejection of claims 1, 3, 6, 7 under 35 U.S.C. 103(a) as being unpatentable over JP 6-320245 or JP 6-304727 is respectfully requested.

Claim 1 has been amended, based on the disclosure of Fig. 1, by defining first and second thermoelements arranged in the casting mold plates within a height range above and below the bath level in a first vertical row and a second vertical row with uniform vertical spacing between the first and second thermoelements, respectively. The first and second thermoelements are substantially positioned at a same height within the first and second rows, respectively, wherein the first and second vertical rows are parallel to one another and positioned at different depths of the wall of the casting mold plates. This allows, based on a temperature difference of two of the first and

second thermoelements positioned substantially at a same height, to calculate the corresponding local heat flux density, respectively. The maximum temperature course of the wall surface in contact with the melt is calculated by means of approximation functions, based on a determination of the course of the local temperatures or the heat flux along a height of the casting mold wall (claim 6).

JP 6-304727 discloses heat flux being monitored by heat flux sensors and casting velocity being detected by casting velocity detecting means. JP 6-320245 discloses heat flux meters for measuring heat extraction in the mold as well as casting speed detection means. Neither one of the cited prior art references shows that for measuring temperature differences first and second thermoelements are arranged in first and second parallel rows at uniform vertical spacing to one another, wherein based on the measured temperature differences the local heat flux density is calculated and, based on the determination of the course of the local temperatures or the heat flux along the height of the casting mold wall, the maximum temperature course of the wall surface in contact with the melt and thus the temperature range ΔT are determined.

Applicant would also like to point out that U.S. patent 4,553,604, mentioned in the first office action, shows in Figs. 5 and 7-9 temperature sensors 14, 15 arranged in a single row preferably at the water-cooled side of the mold plates 11, wherein the temperature sensors 14, 15 are connected to a common line 11a.

In contrast to this arrangement, the present invention has two parallel rows X1 and X2 positioned in a stepped horizontal arrangement Y1/Y2; Y3/Y4; ... As a result of this arrangement of the temperature sensors (thermoelements) according to the invention a double curve results of differential measured values (X1, X2). Based on the calculated wall surface temperature (see Fig. 1), the maximum temperature is used to define the predetermined temperature range (ΔT); see claim 6.

It is respectfully submitted that claim 1, defining two parallel vertical rows of thermoelements for measuring temperatures, and claim 6 in regard to the maximum temperature curve are believed to be allowable.

Therefore, in view of the foregoing, it is submitted that this application is now in condition for allowance and such allowance is respectfully solicited.

Any additional fees or charges required at this time in connection with the application may be charged to Patent and Trademark Office Deposit Account No. 11-1835.

Respectfully submitted,

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Dated: November 14, 2002

Encl.: amended claim 1; petition for time extension

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231, on November 14, 2002.

By: *F.K.*

Friedrich Kueffner

Date: November 14, 2002